Absolute Geographic Coordinates (AGCs)

α = Longitude"
β = Latitude"
X = Absolute Longitude (m)
Y = Absolute Latitude (m)

Absolute Geographic Coordinates (AGCs):

A) <u>For a Point Situated at (α "W, β"N):</u>
   $X = \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000)$ m
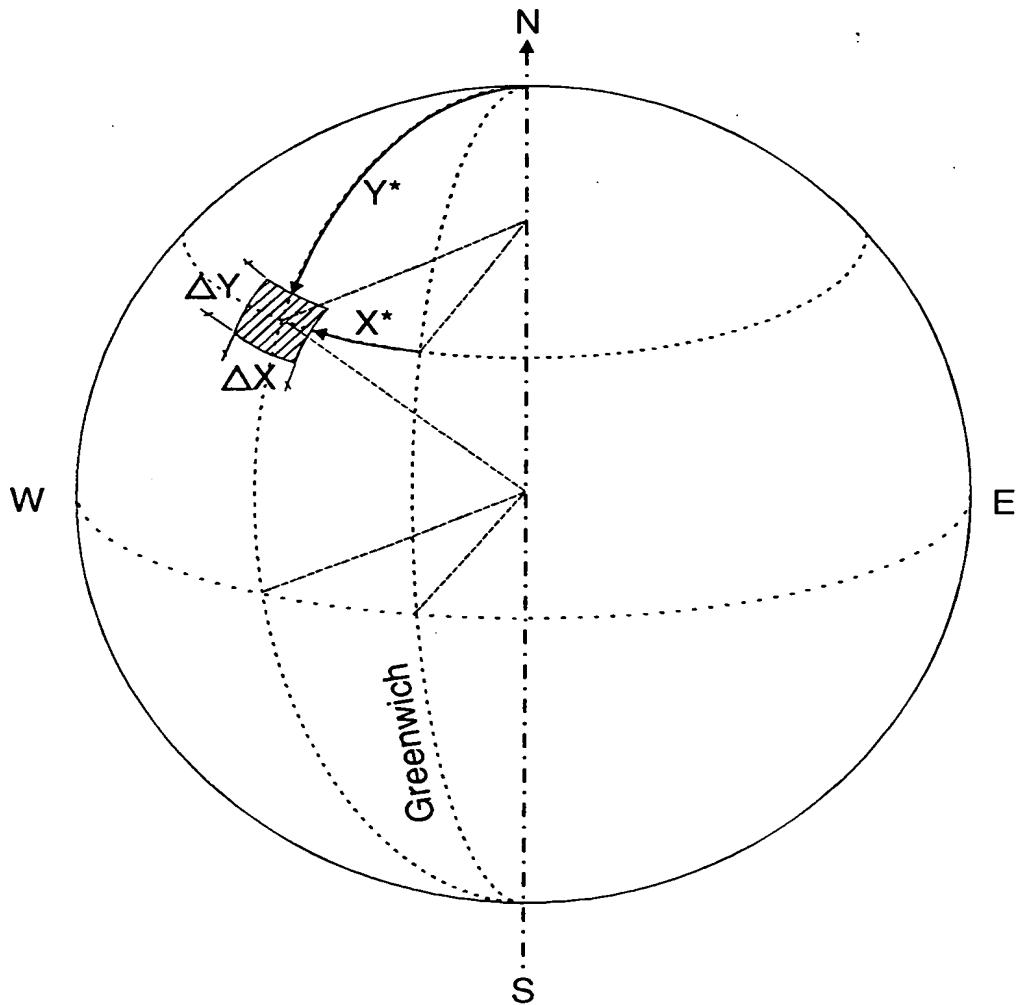 $Y = 10.000.000 - \beta \times (2.500/81)$ m

B) <u>For a Point Situated at (α "E, β"N):</u>
   $X = 1.296.000 - \alpha) \times (2.500/81) \times \cos(\beta \times 90/324.000)$ m
   $Y = 10.000.000 - \beta \times (2.500/81)$ m

C) <u>For a Point Situated at (α "W, β"S):</u>
   $X = \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000)$ m
   $Y = 10.000.000 - \beta \times (2.500/81)$ m

D) <u>For a Point Situated at (α "E, β"S):</u>
   $X = 1.296.000 - \alpha) \times (2.500/81) \times \cos(\beta \times 90/324.000)$ m
   $Y = 10.000.000 - \beta \times (2.500/81)$ m

FIG.1

Fuzzy AGCs Determine Geodesic Squares

Given a Point of the Earth with AGCs:

$$X = x_7x_6x_5x_4x_3x_2x_1x_0$$
$$Y = y_7y_6y_5y_4y_3y_2y_1y_0$$

Then, the "FUZZY" AGCs:

$$X^* = x_7x_6x_5x_4x_3{}^*$$
$$Y^* = y_7y_6y_5y_4y_3{}^*$$

Specify the Geodesic Square that contains all AGC1 (X,Y), such that:

$$x_7x_6x_5x_4x_3000 \leqslant X \leqslant x_7x_6x_5x_4x_3999; \triangle X = 1000m$$
$$y_7y_6y_5y_4y_3000 \leqslant Y \leqslant y_7y_6y_5y_4y_3999; \triangle Y = 1000m$$

FIG.1
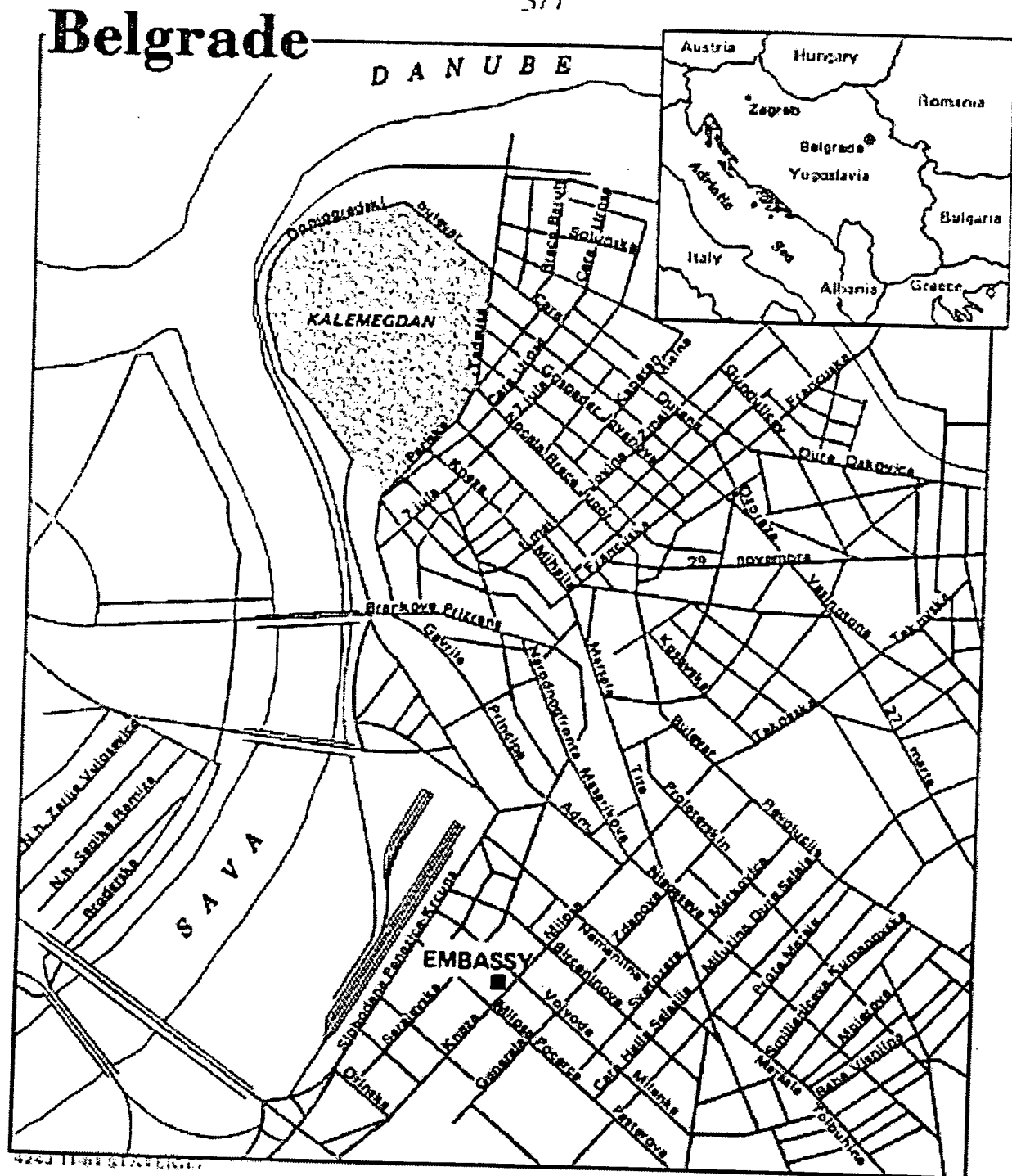
Fig. 3: Conventional Digital Map

Belgrade
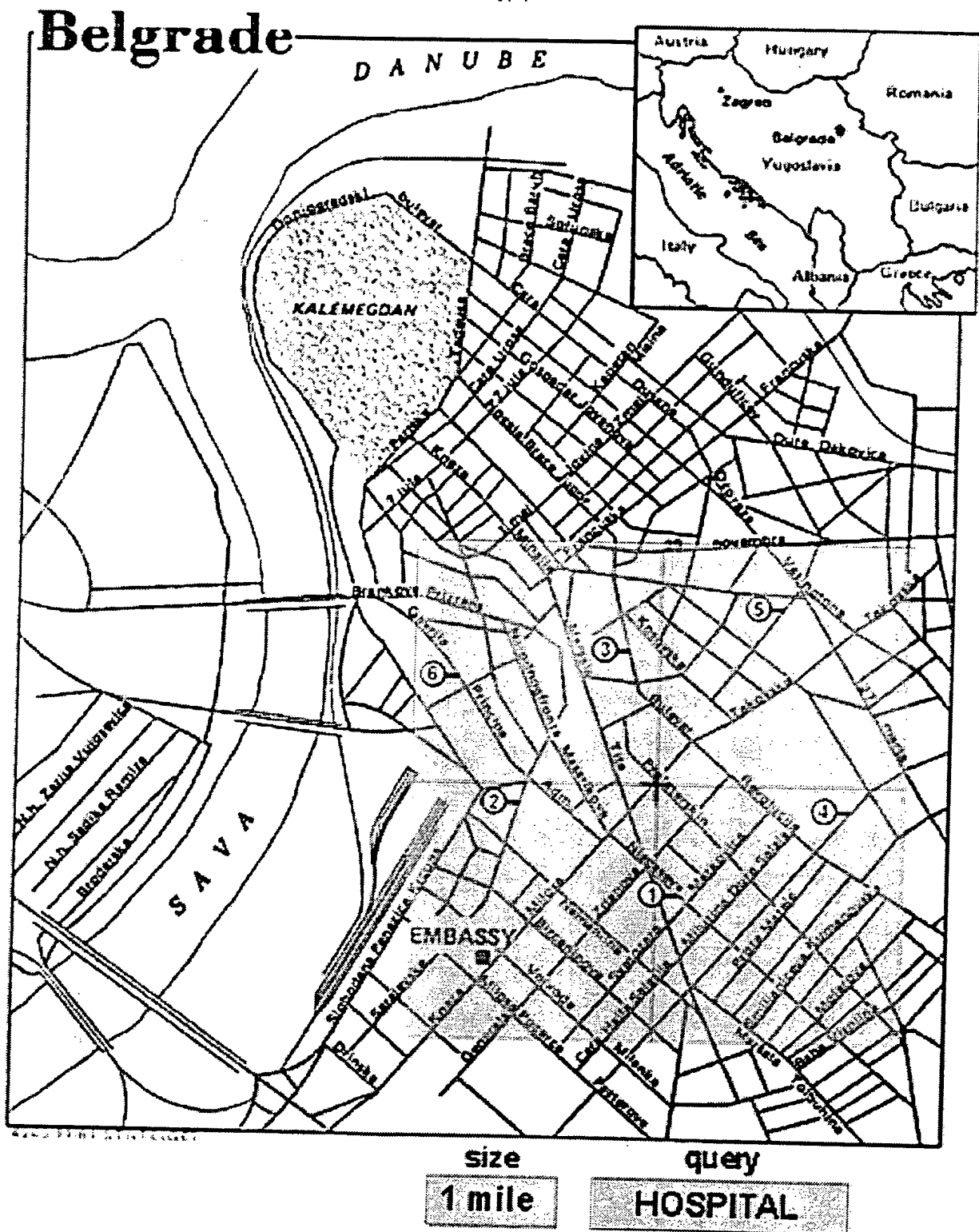
Fig. 4: A typical query
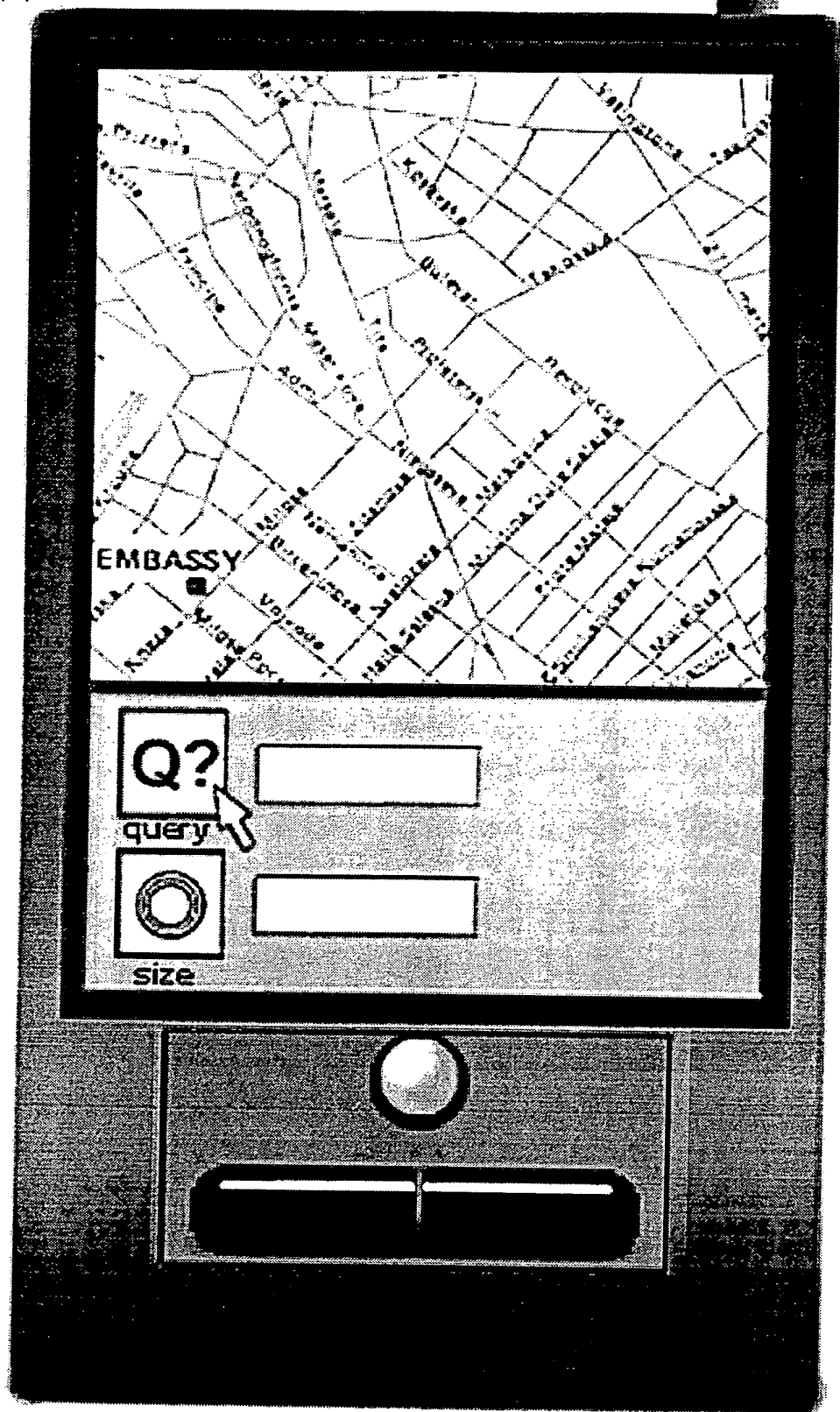
Fig. 5: Personal Information Locator (PIL)
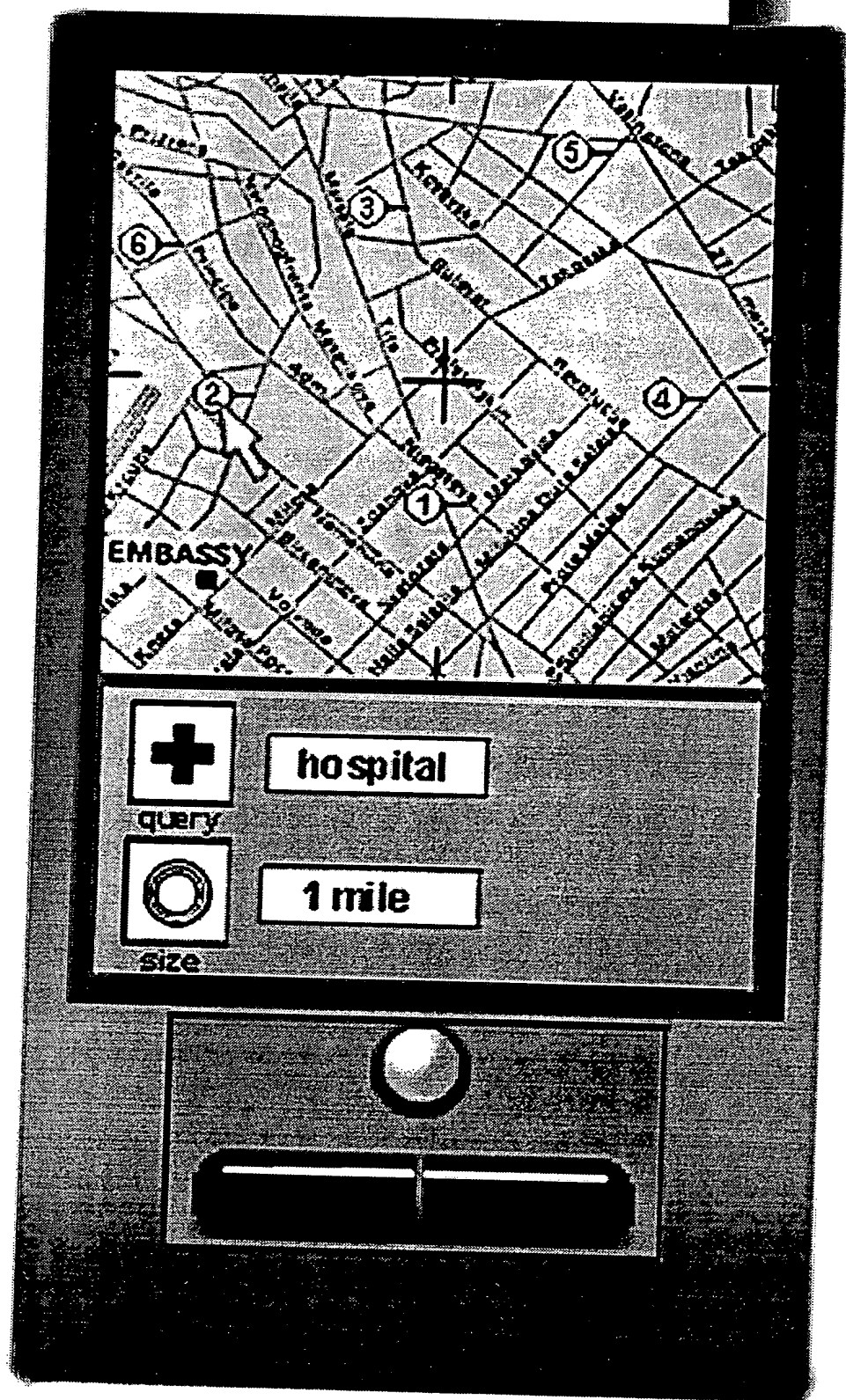
Fig. 6: Iconic map of the query

Fig. 7: Information from selected hyperlink icon